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EXAMINER

HOANG, THAI D

ART UNIT PAPER NUMBER

2662

DATE MAILED: 05/07/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/274,797

Applicant(s)

STORR, MORTEN

Examiner

Thai D Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-8 and 10-18 are rejected under 35 U.S.C. 102(e) as being unpatentable over Lincoln, U.S. patent No. 6,301,226.

Regarding claim 1, Lincoln discloses a method and system, which is called “Asynchronous Transfer Mode System and Method”. Lincoln’s method comprises steps of:

receiving a control cell on the first source virtual channel (receiving forward resource management cell - RM cell - on a channel from source A to a switch; fig. 3-4, elements 73 and 102 respectively; fig. 5; col. 5, lines 57-63; col. 6, lines 51-56; column 7, lines 5-9);

generating the management event upon the receipt of the first control cell (set up virtual channel identification in a queue; fig. 3, elements 72 and 73; fig. 4 element 102; col. 5, lines 60-65.)

processing the management event to determine first resource management data (calculating cell rate by using a rate control algorithm; col. 6, line 61 – col. 7, line 4; col. 7, lines 31-42.);

receiving a second control cell on a second virtual channel, which is associated with a destination node (receiving backward cell on a channel from destination B to the switch; col. 6, lines 48-56, column 7, lines 10-12.);

Lincoln's method inherently comprises the step of modifying the second control cell (backward cell), then transmitting the modified cell over the first virtual channel, because Lincoln discloses that the station A (source) changes its rate depending upon the response of the station B (destination) and the switch in the receive direction from the station B to the station A (col. 7, lines 22-30; col. 9, lines 8-14; col. 11, lines 21-30.)

Regarding claim 2, Lincoln discloses that the system uses Asynchronous Transfer Mode (ATM) in both forward and backward resource management cells (abstract.)

Regarding claim 3, Lincoln discloses the first resource management data stored in a database (element 38, figures 2-4 and 7) and retrieving the first resource management data from the database using virtual channel associated with the second control cell (forward RM cell from the switch to the destination B; fig. 5; col. 7, lines 5-7.)

Regarding claim 4, Lincoln's method comprises a placing virtual channel identification data in a queue (set up virtual channel identification in a queue; fig. 3, elements 72 and 73; fig. 4 element 102; col. 5, lines 60-65), and removing the virtual channel identification data from the queue, and processing the data using a rate control algorithm (col. 6, line 61 – col. 7, line 4; col. 7, lines 31-42.)

Regarding claim 5, Lincoln discloses that the first and second virtual channel comprise a segment of an end-to-end virtual channel operatively coupling the source node and destination node (figures 2, 5, 6 and column 7, lines 5-30.)

Regarding claim 6, the method disclosed by Lincoln inherently comprises the step of forwarding the first control cell over the second virtual channel prior to determining the first resource management data (col. 7, line 5 – col. 10, line 27; col. 17, line 60 – col. 20, line 16) in order to minimize processing delay.

Regarding claim 7 and 8, Lincoln discloses that a forward resource management cell comprises an explicit rate parameter and a congestion parameter and modifying these parameters in the backward resource management cell (abstract; col. 2, lines 25-28; col. 7, line 43 – col. 8 line 5; figures 10-13.)

Regarding claim 10, Lincoln discloses that the system comprises a source port circuitry to send and receive control cells on a source virtual channel; a destination port circuitry to send and receive control cells over a destination virtual channel (figures 2 and 5-6, elements 30 and 45);

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a switch circuitry couples a source port and a destination port, which comprises a circuitry to exchange data and control cells between a source and a destination (figure 5, element 132);

a management portion couples to the source port to receive a control cell and compute resource management (figures 2 and 6, elements 29 and 148 respectively);

a return cell circuitry (fig. 6, element 148) to receive control cells from a destination port, to modify control cells based on the resource management data computed (fig. 6, elements 38, 154, 156), and to provide the modified control cells to a source port over source virtual channel (fig. 6, element 152; col. 7, lines 22-30; col. 9, lines 8-14; col. 11, lines 21-30.)

Regarding claim 11, Lincoln's system comprises a processor, which is connected to a memory (figure 2), the memory stores instructions to configure the processor to compute and store resource management data (fig. 3 and 4, elements 75 and 106 respectively.)

Regarding claim 12, the instructions in Lincoln's system inherently associate resource management data to control information in control cells.

Regarding claim 13, Lincoln discloses a system, which comprises a shared processor coupled to a memory (figure 2.)

Regarding claim 14, Lincoln's system inherently shares transmission circuitry by a physical link from a source to destination to get beneficial for economic reasons.

Regarding claim 15, both data cells and control cells in Lincoln's system are ATM cells, since Lincoln discloses a method for ATM system (abstract.)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lincoln as applied to claim 9 above, and further in view of Jain, U.S Patent No. 5,805,577.

Lincoln does not disclose the explicit rate indication for congestion avoidance in ATM networks (ERICA) algorithm is used to update a resource management data. However, Jain discloses a method, which is called "ERICA: Explicit Rate Indication for Congestion Avoidance in ATM network". Jain uses the explicit rate indication for congestion avoidance in ATM networks (ERICA) algorithm to update a resource management data.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt Jain's method into Lincoln's system in order to obtain the optimum traffic in the network.

***Response to Arguments***

Applicant's arguments filed on August 5, 2002 have been fully considered but they are not persuasive.

In the remarks, page 7, line 27- page 8, line 8, Applicant argues "there is no indication that the BRM cell is being modified". Examiner respectfully disagrees.

Applicant is directed to figure 6, which comprises step 6A and 7A "ABR state and rate

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updates", and figure 10, which comprises a plurality update values. Furthermore, Applicant is directed to column 7, lines 22-30, and algorithm col. 8, line 22 – col. 10, line 27, where the reference teaches that the cell has been modified.

Also, in the remarks, page 8 lines 16-22, Applicant argues "The art of record fails to teach or suggest modifying a second control cell received on a second virtual channel associated with a destination node based on resource management data determined from a management event generate upon receipt of a first control cell received on a first virtual channel associated with a source node." Examiner respectfully disagrees. Applicant is directed to column 6, lines 56-60, where the reference teaches that "Although only the switch 12 is shown as being connected between the stations A and B, it should be appreciated that any number of switches may be connected between the stations A and B without departing from the scope of the invention." As well-known in the art, in an ATM switching system, when a switch receives a cell, the VCI and VPI in the header of the cell will be changed based on routing table of the switch. Therefore, it implies that a backward cell, after transmitted over a plurality of switches in the ATM system as disclosed by the reference, is not necessary transmitted in the same virtual channel, which conveys a forward cell. (also see page 6, line 22 – page 7 line 25 of the application)

Regarding claim 4, in the remarks page 9, lines 1-5, Applicant argues that the reference actually refers virtual channel identification data placed in a table and not a queue. Examiner respectfully disagrees. Although the reference uses a term "table" (col. 4, lines 47-51; col. 5, lines 57-65) for description; however, one ordinary skill in the art



could understand that the virtual channel identification data place in a queue because they are placed in order in a memory 38.

In the remarks page 9, lines 6-10, Applicant argues that "Lincoln is discussing processing that is occurring in the end stations A and B, and not to processing that is occurring in a network element, such as an ATM switch residing between the two end stations". Examiner respectfully disagrees. Although Lincohn uses the term "end stations", however, one of ordinary skill in the art would be able to understand the "end stations" in the system disclosed by Lincohn is a kind of "network element" because they connect directly to a switch, and they generate, transmit and receive ATM cells to/from subscribers at end system.

Regarding claim 6, the system discloses by Lincohn inherently comprises the steps in claim 6 as recited in previous paragraph.

Regarding claim 10, in the remarks, page 9, line 19- page 10, line 7, Applicant argues that the interfaces disclosed by Lincohn "do not constitute both source port circuitry operative to send and receive control cells on a source virtual channel, and destination port circuitry operative to send and receive control cells over a destination virtual channel in a single apparatus." Examiner respectfully disagrees. Applicant is directed to figures 2, 6, col. 4, line 54 - col. 7, line 22, where the reference teaches theses features.

Also, on page 9, line 29 – page 10, line7, applicant argues that "the invention of Lincoln is primarily directed to the end stations A an B, and thus Lincoln does not discuss details of the switch 132." Examiner believes that the "end stations" of the

system disclosed by Lincohn, is a kind of the "apparatus" as recited in claim 10 because the "end stations", which directly connect to a switch, perform the functions same as the functions of the "apparatus" recited in claim 10.

Furthermore, on page 10, lines 8-17, Applicant argues "The art of record fails to teach or suggest an apparatus with the circuitry as claimed in independent claim 10." Examiner respectfully disagrees. Applicant is directed to figures 5, 8-10, 12-14, col. 7, line 22 – col. 10, line 27, where the reference teaches these features.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Thai Hoang  
April 25, 2003

KWANG BIN YAO  
PRIMARY EXAMINER  
